

## FACSIMILE COVER SHEET

**SALIWANCHIK, LLOYD & SALIWANCHIK**  
A Professional Association  
P.O. Box 142950  
Gainesville, FL 32614-2950

Telephone (352) 375-8100  
Facsimile (352) 372-5800

**EXAMINER:** Kailash C. Srivastava

**FROM:** David R. Saliwanchik

**COMPANY:** U.S. Patent Office  
Art Unit 1657

**DATE:** September 15, 2010

**FAX NO.:** (571) 273-0923

**NO. OF PAGES**  
**(INCLUDING COVER SHEET):** 5

**SUBJECT/MESSAGE:**

Re: Serial No. 10/520,221  
Attorney Docket No. GJE.7140

Dear Examiner Srivastava:

Attached is an Informal Communication regarding the above-referenced application.

---

*The information contained in this facsimile message is intended only for the personal and confidential use of the designated recipients named below. This message may be an attorney-client communication, and as such is privileged and confidential. If the reader of this message is not the intended recipient or an agent responsible for delivering it to the intended recipient, you are hereby notified that you have received this document in error, and that any review, dissemination, distribution, or copying of this message is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and return the original message by mail. Thank you.*

---

*If you do not receive all pages or if any transmission is not legible, call the sender at (352) 375-8100.*

H:\DOC\FAXCOVER\PTO\SRIVASTAVA-GJE-7140.DOC\RES\la

INFORMAL COMMUNICATION  
Examining Group  
Patent Application  
Docket No. GJE.7140

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner : Kailash C. Srivastava  
Art Unit : 1657  
Applicants : Christopher Robin Lowe *et al.*  
Serial No. : 10/520,221  
Filed : January 4, 2005  
Confirm. No. : 2605  
For : Detection of Microorganisms with Holographic Sensors

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

INFORMAL COMMUNICATION

Dear Examiner Srivastava:

In anticipation of our telephone interview today at 10:00, following are claim amendments that we would like to propose.

1 (currently amended). A method for ~~the identification of a cell, or the detection of a product of cell metabolism, cell growth, and/or spore germination, wherein said method comprises immobilising the cell on an antibody in a device also containing a sensor, and introducing a growth medium using an antibody to immobilize a cell or spore in a device that also contains a sensor and a growth medium,~~ wherein the sensor is a holographic sensor comprising an analyte-sensitive matrix having an optical transducing structure disposed throughout its volume, wherein the sensor is sensitive to a product of the cell's metabolism, growth, and/or germination ~~of the cell or spore~~; and detecting any change in an optical characteristic of the sensor.

2 (previously presented). The method according to claim 1, wherein the cell is immobilised on an antibody that is attached to a magnetic particle.

3 (cancelled).

4 (previously presented). The method according to claim 1, wherein the cell is a bacterial cell.

5 (previously presented). The method according to claim 4, wherein the bacterium is selected from the group consisting of *Bacillus anthracis*, *Bacillus globigii*, *Bacillus subtilis*, *Bacillus megaterium*, *Legionella pneumophila*, *Francisella tularensis*, *Yersinia pestis*, *Salmonella* spp., *E.coli* spp., *Listeria* spp., *Bacillus thuringiensis* and *Campylobacter* spp.

6-7 (canceled).

8 (currently amended). A device suitable for the detection of a product of cell metabolism, cell growth, and/or spore germination, the detection of a cell, by a method comprising immobilising the cell in a device that also contains wherein said device comprises a chamber in which a cell or spore can be immobilized, wherein said chamber has a sensor, an antibody for immobilizing a cell or spore, an inlet for a sample, and introducing a growth medium,

wherein the sensor is a holographic sensor comprising an analyte-sensitive matrix having an optical transducing structure disposed throughout its volume,

wherein the sensor is sensitive to a product of the cell's cell metabolism, cell growth, and/or spore germination; and detecting any change in an optical characteristic of the sensor that is caused by the cell's metabolism, growth, and/or germination;

wherein said device comprises a chamber including a sensor, an antibody, and a growth medium, and an inlet for a sample.

9 (canceled).

10 (previously presented). The device according to claim 8, wherein the antibody is immobilised on a wall of the chamber.

11 (currently amended). The device according to claim 8, ~~which additionally comprises wherein the antibody is immobilised on a magnetic particle, and the said the device further comprises a means can provide for providing~~ a magnetic field.

12 (previously presented). The device according to claim 8, further comprising a container including a buffer solution, in connection with the sample inlet.

13 (previously presented). The device according to claim 8, which comprises a series of said chambers.

14 (canceled).

Remarks

A key aspect of the subject invention is that the activity of a cell or spore can be detected.

Weimer *et al.* and Bruno *et al.* are cited for methods of detecting cells. However, both of these references will detect all cells in a sample whether dead or viable because these references do not detect the activity of the cells.

The subject invention is based largely on the realization that a cell/spore will grow/germinate when immobilized on a surface in the presence of a growth medium and that a holographic detector can detect the relatively low levels of resulting byproduct. The Lowe *et al.* reference provides no expectation of such a high sensitivity level from a holographic sensor as to be capable of detecting the relatively low levels of products that result from cell growth and/or spore germination.

I will look forward to discussing this case with you today at 10:00 a.m.

Respectfully submitted,



David R. Saliwanchik  
Patent Attorney  
Registration No. 31,794  
Phone No.: 352-375-8100  
Fax No.: 352-372-5800  
Address: Saliwanchik, Lloyd & Saliwanchik  
A Professional Association  
P.O. Box 142950  
Gainesville, FL 32614-2950

DRS/la